

What is claimed is:

1. A method for enhancing a digital signal, comprising:  
receiving a compressed digital signal from a modulated communication and/or storage medium; and  
modifying the digital signal such that an enhancement aspect is composited within a redundant aspect of the digital signal forming an enhanced digital signal.
2. An enhanced digital signal formed according to the method of Claim 1.
3. The method of Claim 1, further comprising the steps of:  
decoding the compressed digital signal according to a standard method to form a standard decoded frame;  
demultiplexing meta data associated with the digital signal;  
upsampling the digital signal according to the meta data;  
interpolating a first image frame prediction based on the results of the standard decoding and the upsampling; and  
fusing the standard decoded frame, the interpolated standard decoded frame, and one or more previously enhanced frames.
4. A digital signal enhancer, comprising:  
a digital signal receiver for receiving a compressed digital signal from a modulated communication and/or storage medium; and  
a digital signal modifier coupled to the digital signal receiver for compositing an enhancement aspect within a redundant aspect of the compressed digital signal.
5. The digital signal enhancer of Claim 4, wherein the digital signal enhancer comprises reverse superresolution coding.

6. A method for diffusing data within standard-coded digital image data, comprising the steps of:

identifying a compressed image aspect in a series of compressed image representations;

determining redundant representations of the compressed image aspect within the series of compressed image representations; and

modifying a redundant representation to form a modified-representation such that the aspect is more completely conveyed by the series of compressed image representations.

7. The method of Claim 6, further comprising the steps of:

comparing the modified-representation with an alternatively-modified representation to form a comparison; and

causing the modified-representation or alternatively-modified representation to be formed in accordance with the comparison.

8. A modified representation formed according to the method of Claim 6.

9. A diffuser comprising:

means for identifying an image aspect in a series of compressed image representations;

means for determining redundant representations of the image aspect within further series of image representations; and

means for modifying a redundant representation such that the aspect is more completely conveyed by the series of compressed image representations.

10. The diffuser of Claim 9, wherein:

the means for identifying the image aspect in the series of compressed image representations comprises a compressed image aspect detector;

the means for determining redundant representations of the image aspect within further series of image representations comprises a redundant compressed image aspect representation detector coupled to the compressed image aspect detector; and

the means for modifying the redundant representation such that the aspect is more completely conveyed by the series of compressed image representations comprises a redundant representation modifier coupled to the redundant compressed image aspect representation detector.

11. A method of enhancing a video frame, comprising the steps of:
  - enhancing a first image frame in an encoder;
  - analyzing the first image frame to determine a coding and a reconstruction of the first image frame;
  - optimizing a sequential frame based at least partly on the coding and reconstruction of the first image frame.

12. The method of Claim 11, further comprising the steps of:
  - injecting a controlled alias signal component into an encoded video signal in the encoder; and
  - describing the controlled alias signal component in meta-data associated with the encoded video signal.

13. The method of Claim 11, further comprising the step of:
  - fusing the first frame and the sequential frame via an enhanced reconstruction technique such that the first frame and the sequential frame have a substantially consistent quality.

14. A method of image fusion, comprising the steps of:
  - measuring and analyzing elements from a bitstream, the bitstream comprising standard decoded images, interpolated standard decoded images, and enhanced reconstructed images;

processing frame, macroblock, and block parameters;  
establishing confidence levels for one or more fusion stages;  
constraining and guiding a fusion data construction based on the measurement  
and analysis results; and  
controlling one or more data fusion operators by optical flow measurements and  
analysis

15. The method of Claim 14, wherein the one or more fusion stages are  
selected from optical path coding modes and prediction block coding modes.

16. A method of upsampling interpolation, comprising the steps of:  
predicting a first enhanced image from a standard decoded image; and  
interpolating the standard decoded image, the interpolation occurring in  
accordance with one or more meta data parameters.

17. The method of Claim 16, wherein the interpolation also occurs in  
accordance with one or more measurements of the standard decoded image.